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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,585	04/04/2006	Daniel Iancu	29083/44610	3963
23646 7590 07/06/2007 BARNES & THORNBURG LLP 750-17TH STREET NW SUITE 900 WASHINGTON, DC 20006-4675			EXAMINER ETTEHADIEH, ASLAN	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 07/06/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

sf

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,585	<b>Applicant(s)</b> IANCU ET AL.	
	<b>Examiner</b> Aslan Ettehadieh	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-11 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.
2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 102*

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 7 – 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Parker (US 2003/0219084).
4. Regarding claim 1, Parker discloses a receiver comprising: an A/D converter for converting received analog signals to a digital signal data stream (paragraphs 20, 23, where providing digital samples is known to be digitized by A/D converter(s)), wherein the digital signal data stream includes symbols separated by guard segments (paragraph 7 – 8, 11; where it is known in signals containing guard segments there are separations between them); an I/Q demodulator for producing a first set of complex I and Q components from the digital signal data stream (figure 1; paragraph 20); a guard segment length detector using the first set of I and Q components; an extractor for

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identifying and removing the guard segments of the detected length from the digital signal data stream (figure 1, elements 4, 20, 10, paragraphs 20 – 23); and an FFT demodulator for demodulating the symbols of the digital signal data stream to produce second sets of complex I and Q components (figure 1, elements 12, paragraphs 20 – 24).

5. Regarding claim 7, Parker further discloses a processor programmed to operate as the I/Q demodulator, the guard segment length detector, the extractor and the FFT demodulator (figure 1; where the receiver is being interpreted as a processor).

6. Regarding claim 8, Parker further discloses wherein the FFT demodulator is an orthogonal frequency division multiplexing demodulator (paragraphs 5, 20).

7. Regarding claim 9, Parker further discloses the receiver is a digital video broadcasting receiver (paragraphs 6, 20).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2 – 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (US 2003/0219084) in view of Harada et al. (US 2004/0184561)

9. Regarding claim 2, Parker discloses the FFT demodulator demodulates two symbols at one time to produce the second sets of complex I and Q components (figure

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1 element 12, paragraphs 23 – 24; where the FFT having two inputs and two outputs can be interpreted as two symbols at one time, and also where the value of A can be selected to include two symbols at one time), however, Parker does not explicitly disclose discloses the FFT demodulator demodulates two symbols at one time.

In the same field of endeavor, however, Harada discloses the FFT demodulator demodulates two symbols at one time (figure 7 element 708, paragraphs 104 – 106).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use the FFT demodulator demodulates two symbols at one time as taught by Harada in the system of Parker to provide proper equalization (paragraphs 104 – 106).

10. Regarding claim 3, Parker further discloses wherein the FFT demodulator operates in one of a 4K mode for a 2K requested mode and 16K mode for an 8K requested mode (paragraphs 20, 24).

11. Claims 10 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (US 2003/0219084) in view of Ohtaki et al. (US 2004/0052205)

12. Regarding claim 10, Parker does not discloses

In the same field of endeavor, however, Ohtaki discloses the receiver includes at least two antennas each connected to a respective receiver front-end and A/D converter (figure 1, paragraphs 12, 27, 64, abstract).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use the receiver includes at least two antennas each connected

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to a respective receiver front-end and A/D converter as taught by Ohtaki in the system of Parker to provide diversity.

13. Regarding claim 11, Parker does not disclose the receiver includes at least two antennas each connected to a respective receiver front-end and A/D converter

In the same field of endeavor, however, Ohtaki discloses wherein the at least two antennas are orthogonally positioned and the receiver front-end includes a phase shifter (figure 1, paragraphs 12, 27, 64, abstract).

Therefore it would have been obvious to one skilled in the art at the time of invention was made to use wherein the at least two antennas are orthogonally positioned and the receiver front-end includes a phase shifter as taught by Ohtaki in the system of Parker to provide diversity.

#### ***Allowable Subject Matter***

14. Claims 4 – 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aslan Ettehadieh whose telephone number is (571) 272-8729. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aslan Ettehadieh  
Examiner  
Art Unit 2611

AE

  
DAVID C. PAYNE  
SUPERVISORY PATENT EXAMINER